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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Paul E. Purpura

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EXAMINER

KOYAMA, KUMIKO C

ART UNIT

PAPER NUMBER

2876

DATE MAILED: 02/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/918,035

Applicant(s)

PURPURA ET AL.

Examiner

Kumiko C. Koyama

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-35 is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 052103 6) ☐ Other: _____

DETAILED ACTION

Acknowledgement is made of receipt of Amendment filed on October 10, 2003.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Gu (US 6,409,085).

Gu teaches a produce data collector that includes an ambient light sensor 46 for sensing the level of ambient light through windows and sends ambient light level signals 88 to control circuitry 56 (col 8, lines 40-45). When the ambient light sensor and the control circuitry senses the placement of a produce item, the control circuitry takes a reading from the detector array 54, which detects both the produce and the ambient light leakage (col 9, lines 3-7, 27-30 and 40-46). This reading is the real-time system dark level plus any ambient light leakage (col 9, lines 40-47), which is considered as a baseline signal. The second reading, which is a spectral reading with LED's on (col 9, lines 40-47), is considered as the detected signal by the receiving light reflected from the target and background while transmitting a light scan at the target. The control circuitry

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56 subtracts the first reading from the second reading to produce a produce digitized produce data signals 84 (col 9, lines 40-47).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gu in view of Dolash et al (US 4,983,817). The teachings of Gu have been discussed above.

Gu fails to teach that the target comprises a barcode and that the transmitting the light scan at the target comprises transmitting a laser beam at the target.

Dolash teaches a background compensating bar code reader that detects a fluorescent light signal 10 serving as the detect signal by receiving light reflected from the target and a reflected excitation light signal 11 serving as signal for the generating of the baseline signal (col 5, lines 28-37). The reflected excitation light signal 11 converts into a voltage signal 21, and voltage signal 21 is converted into voltage signal 31 (col 7, lines 7-15). Such conversion serves as generating a baseline signal. The fluorescent light signal 10 is converted into voltage signal 18 (col 7, lines 1-7), which serves as generating a detected signal. Dolash further teaches that a subtraction device could be used to subtract one voltage signal 31 from the other voltage 18 and the resultant differential voltage would be constant and independent of background reflectance under the fluorescent bars (col 7, lines 60-65). Dolash teaches that the invention is for reading a

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fluorescent bar code (col 4, lines 66+). Dolash teaches that the excitation light source means 3 comprises a conventional helium-neon laser (col 5, lines 10-11).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Dolash to the teachings of Gu in order to obtain the ambient reading in a barcode reading method, such that the ambient condition can be disregarded from the determination between bars (black) and spaces (white). Such modification enhances bar code reading technology by accurately reading the bar code information in various light conditions.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gu in view of Buhler et al (US 5,672,317). The teachings of Gu have been discussed above.

Gu fails to teach that the target comprises a sample vessel.

Buhler et al teaches a sample vessel 11 with a bar code label 48 (Fig 5).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Gu to the teachings of Buhler because a bar code label is capable of identifying the contents, tests that have been/being performed, results of the sample vessel in a fast and easy manner. Furthermore, such modification would further prevent the sample vessel from getting lost within the lab facility.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gu in view of Dolash as applied to claim 4 above, and further in view of Blanford (US 4,868,375). The teachings of Gu as modified by Dolash have been discussed above.

Gu as modified by Dolash fails to teach that the transmitting a laser beam at the target comprises transmitting a red laser beam at the target.

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Blanford teaches a bar code reader 20 having a light source 32 producing a continuous laser beam of red monochromatic light (col 3 lines 26-29).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Blanford to the teachings of Gu as modified by Dolash in order to indicate where the bar code reader is emitting light towards, which helps the user to aim the reader's light source to the precise location of the bar code, therefore obtaining the correct bar code information/reading in a timely manner.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gu in view of Belser (US 5,892,745). The teachings of Gu have been discussed above.

Gu fails to teach the subtracting step comprises inverting the baseline signal and summing the detected and inverted baseline signals.

Belser teaches subtracting MO⁺ and MO⁻ signals using an inverting amplifier and a summing amplifier (col 2 lines 41-44).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Belser to the teachings of Gu because an inverting amplifier and an summing amplifier are well known operational amplifiers that are cheap and easy to use, which leads to a more simple and compact product.

8. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gu as modified by Belser as applied to claim 6 above, and further in view of Nagata (US 5,898,738). The teachings of Gu as modified by Belser have been discussed above.

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Gu as modified by Belser fail to teach passing the detected signal through a first resistor and the inverted baseline signal through a second resistor before the summing where the ratio of the first resistor to the second resistor comprises the ratio 1:3.

Nagata teaches a first resistor with its one end connected to the logic sum circuit and the other end connected to an operational amplifier, and a second resistor with its one end connected to the logic sum circuit. Nagata further teaches that the first and second resistors have their resistance values set to be 1:3 ratio.

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Nagata to the teachings of Gu as modified by Belser in order to adjust the signal amplitude to a value that the summing amplifier is capable to handling, which prevents the amplifier from being damaged or perform wrong operations.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gu as modified by Belser and Nagata as applied to claim 8 above, and further in view of Endo (US 5,258,749). The teachings of Gu as modified by Belser and Nagata have been discussed above.

Gu as modified by Belser and Nagata fail to teach amplifying the baseline signal by a factor of three before the inverting.

Endo teaches a signal passing through an amplifier 8 and amplifying the level to three time (col 3 lines 25-28).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Endo to the teachings of Gu as modified by Belser and Nagata and amplify the baseline signal, which is generated by

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receiving reflected light off of the background, by a factor of three in order to adjust the signal amplitude to a value that the inverting amplifier is capable to handling, which prevents the inverting amplifier from being damaged or perform wrong operations.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gu in view of Robertson (US 4,806,741). The teachings of Gu have been discussed above.

Gu fails to teach a method comprising generating a scan synchronization signal immediately before transmitting the light scan, and generating the baseline signal immediately after generating the scan synchronization signal.

Robertson teaches a line scan synchronization signals, which comprise steps of generating a time sequence of pulsed signals (col 3 lines 63-65).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Robertson to the teachings of Gu in order to enhance signals read and improve the readability of defective formed or damaged bar codes.

Response to Arguments

11. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

The examiner has found new art that she believes is more relevant to the instant application. Therefore, new prior art and rejections have been applied.

Allowable Subject Matter

12. Claims 11-35 are allowed.

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13. The following is a statement of reasons for the indication of allowable subject matter:

The primary reasons for allowance of the claims is the inclusion of the specific circuit components, and the relationship between components as indicated in the previous office actions.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Coleman, U.S. Patent No. 5,852,286, discloses method and apparatus for reducing bandwidth limited noise in bar code scanner.

Zhu et al., U.S. Patent No. 6,510,994, discloses triggering method and for a produce recognition system.

Howard, U.S. Patent No. 4,694,182, discloses a hand held bar code reader with modulated laser diode and detector.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kumiko C. Koyama whose telephone number is 571-272-2394. The examiner can normally be reached on Monday-Friday 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on 571-272-2398. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1562.

Kumiko C. Koyama
Kumiko C. Koyama
January 23, 2004



THIEN M. LE
PRIMARY EXAMINER